

*Remarks on the Pronghorn (Antilocapra Americana).**By Harrison Allen, M.D.**(Read before the American Philosophical Society, May 3, 1889.)*

While observing the movements of the two examples of the pronghorn, now in the Zoölogical Garden in Philadelphia, I noticed that the foot, in receiving the support of the body, exhibited the first phalanx partially extended upon the metapodium, and the second partially flexed upon the first. The movement was marked in a greater degree in the pronghorn than in any other ruminant in the Garden, which contains several specimens of the Old World antelopes.

It occurred to me that a heavier bulk of trunk would tend to force the phalanges nearer the ground, and that the digitigrade plan of progression be converted in this way into a phalangigrade. Comparing the foot of the pronghorn with that of the llama in which such a change has actually occurred, it was seen that in some respects the two animals move the feet in similar ways. Notably in this regard is the manner of turning the trunk on a limb which, in each of the animals named, is being used for support. The limb permits a marked degree of torsion to take place before the foot is lifted, and the twist to occur for the most part on the inner hoof, while the outer hoof describes an excursus.

Such conclusions led me to compare other parts of the hind limb with each other as they are found in the camel, the llama and the pronghorn. I found the several parts resembling each other in the following particulars, as distinguished from their congeners: While the thigh is exert in the camel and llama, it is partially so in the pronghorn. The fold of integument in the pronghorn which passes from the trunk to the limb reaches it at a point directly above the knee. In the deer it reaches it at the knee, or over the tuberosity of the tibia, and in the bovine group still further down. In the Virginian deer the fold answers to the separation of the venter color from that of the upper part of the side of the body and of the dorsum. In the pronghorn, the camel, and the llama, the fold answers to no localization of color. The camel, llama and pronghorn also resemble one another in the width between the thighs as seen from behind, and in the great inward inclination of the legs at the ankles.

These resemblances were so striking that I was induced to compare the crania of these animals with one another. I found that they agree in having the lachrymal bone* excluded in great part from the floor of the orbit, and in having the bone extended posteriorly to a less degree than the maxilla. In other ruminants (except the Chilian deer†) the lachrymal bone comprises the orbital floor and extends posteriorly beyond the maxilla.

* The peculiarities of the lachrymal bone are of special importance in determining the value of craniological characters. I have found its shape and relations of great interest in studying the mammalia.

† *Puduua humilis*.

The vomer in the camel and llama advances far into the nasal chamber before joining the bones at the floor of the nose. The choanæ are therefore imperfectly defined. This peculiarity, however, is of little value, since many forms of *Cervus* and its allies exhibit it.

The squamosal foramina are variable in different examples of the pronghorn skull, but on the whole they may be said to resemble those of the camel and the llama rather than those of other ruminants.

The angle of the lower jaw is not trenchant but inconspicuous and rounded in the three animals last named, and in this respect differs from other ungulates examined. In place of the process on the posterior border of the ascending ramus, seen in the camel and the llama, the pronghorn has the outline interrupted by an obscurely elevated rugosity.

It must be conceded that the above resemblances between the pronghorn and the family of the camels are decided, and it remains to point out their significance.

The Tylopoda and Pecora are separated by characters too profound to be bridged by any of those enumerated, and in the absence of proof presented by palæontology that the groups are connected through the medium of one or more extinct forms, it must be concluded that the characters are adaptive on the part of the pronghorn to enable it to live on terms of the same kind that environ the camel and the llama.